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**Community detoxification for alcohol dependence: A systematic review,
published in 'Drug and Alcohol Review'**

Abhijit Nadkarni^{a,b}, MBBS, DPM, MRCPsych, MSc, Research Fellow

Paige Endsley^c, BA, MPH student

Urvita Bhatia^b, BA, MSc, MSc, Research Fellow

Daniela C. Fuhr^b, Dipl-Psych MSc DrPH, Lecturer

Aneesa Noorani^d, BSc student

Aresh Naik^a, MSc, Lecturer

Pratima Murthy^e, MBBS, MD, Professor

Richard Velleman^{a,f}, BSc, MSc, PhD, Emeritus Professor

^aSangath, Goa, India

^bLondon School of Hygiene & Tropical Medicine, London, UK

^cColumbia University Mailman School of Public Health, New York, USA

^dYale University, USA

^eNational Institute of Mental Health & Neuro Sciences, Bangalore, India

^fUniversity of Bath, Bath, UK

Corresponding author

Abhijit Nadkarni

H No 451 (168), Bhatkar Waddo, Socorro, Porvorim, Bardez, Goa-India 403501

Ph: 0091-7798889723

Email: abhijit.nadkarni@lshtm.ac.uk

Running title: Detoxification for alcohol dependence

Abstract

Issues

Despite the potential advantages of community detoxification for alcohol dependence, **in many countries** the available resources are mostly focused on specialist services that are resource-intensive, and often difficult to access due to financial or geographical factors. The aim of this systematic review is to synthesise the existing literature about the management of alcohol detoxification in the community to examine its effectiveness, safety, acceptability and feasibility

Approach

The systematic review was guided by an a priori defined protocol consistent with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statement. Cochrane library, Medline, EMBASE, PsycINFO, Global Health and CINAHL databases were searched using appropriate search terms. A qualitative synthesis of the data was conducted as the heterogeneity of study designs, samples and outcomes measured precluded a meta-analysis.

Key findings

Twenty studies with a range of designs were eligible for the review. Community detoxification had high completion rates and was reported to be safe. Compared to patients undergoing facility based detoxification, those who underwent community detoxification had better drinking outcomes. Community detoxification was cheaper than facility based detoxification and generally had good acceptability by various stakeholders.

Implications

For certain kind of patients community detoxification should be considered as a viable option to increase access to care.

Conclusions

Although the current evidence base to some extent supports the case for community detoxification there is a need for more randomised controlled trials testing the cost effectiveness of community detoxification in comparison with inpatient detoxification.

Key words: Alcohol, dependence, detoxification, community, review

Introduction

The World Health Organization's (WHO) International Classification of Diseases 10th Revision (ICD-10) classifies alcohol use disorders (AUDs) as "harmful use" (pattern of psychoactive substance use that causes damage to health) and "alcohol dependence" [1]. Alcohol dependence (AD), is defined as "a cluster of behavioural, cognitive, and physiological phenomena that develop after repeated alcohol use and that typically include a strong desire to consume alcohol, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority given to alcohol use than to other activities and obligations, increased tolerance, and sometimes a physiological withdrawal state" [1]. AD, the most severe type of AUD, is not only a direct cause for premature death and disability but is also a risk factor for other communicable and non-communicable diseases [2-4]. The risk of death due to AD is about 2 to 9 times that of the general population [5]. AD also impacts multiple domains of the affected person's life e.g. reduced productivity, job loss or absenteeism, loss of relationships, problems with family roles, vandalism, social drift downwards, and stigma. Overall, AD accounts for 71% of the alcohol attributable mortality burden and 60% a large proportion of the social costs attributable to alcohol [5].

The treatment of AD broadly includes detoxification (to minimise symptoms of withdrawal) and relapse prevention using psychosocial and/or pharmacological interventions. Specialist care is indicated for patients with severe alcohol dependence and for those patients who experience additional co-morbid health-related problems that may complicate treatment and worsen treatment outcomes. For less severely dependent patients, primary and community-based care is recommended [6]. Thus management of patients requiring "assisted alcohol withdrawal" may occurs in inpatient, residential facilities or even community-based settings including general

physicians' practices and patients' homes [6]. For people with mild to moderate dependence, the NICE guidelines recommend an outpatient-based assisted withdrawal programme which involves fixed dose medication regimens, carer overseeing the process with daily monitoring by trained staff, and psychosocial support [6].

Unfortunately, treatment of AUDs have been accorded a low priority, particularly in ~~low resource settings~~ low and middle income countries (LMICs). National alcohol policies and dedicated resources within the health system are still largely missing, or inadequate in these countries which hinders the effective management of patients with AUD and worsens their outcome [7, 8]. Furthermore, the available resources are mostly focused on specialist services that are resource-intensive, and often difficult to access due to financial or geographical factors [6, 7]. Hence the treatment of AD in existing platforms of institutional care in ~~low and middle income countries (LMICs)~~ is both limited by its accessibility, and sub-optimal as community-based care is rarely available despite it being recommended in most cases [6] as both a viable and efficient solution [9].

Community-based detoxification for moderate or severe AD is essentially based on the principle of collaborative care, by involving a range of health professionals who provide services at different stages of treatment (e.g. medical care by a trained doctor, and monitoring by a nurse). The key strengths of community-based detoxification include its effectiveness in improving clinical outcomes, cost effectiveness and acceptability [10]. Furthermore, community-based detoxification increases accessibility and acceptability of treatment, and overcomes facility and resource-related challenges that are often found in low resource settings [11]. All these factors (e.g. cheap, monitoring through primary care) make community detoxification a particularly good fit for the requirements of low resource settings in LMICs.

The published literature about community detoxification of AD is sparse and the synthesis of such evidence is relatively non systematic (i.e. narrative reviews) and mostly non recent (i.e. most reviews published in 1990s or early 2000s) [10, 12, 13]. These existing reviews conclude that community detoxification is cost effective but cannot entirely replace inpatient detoxification. The aim of the current systematic review is to synthesise the existing literature about the management of alcohol detoxification in the community to examine its effectiveness, safety, acceptability and feasibility. Thus, besides being the most recent such review, it is different from existing reviews as it follows a rigorously systematic and hence replicable methodology; and also examines dimensions like acceptability and feasibility along with the more conventional dimensions like effectiveness. Finally, this review was conducted as an integral part of the formative research in a project aiming to develop a community detoxification package for low resource LMIC settings. Hence, the review was focused on evidence which had minimal or no involvement of specialist services (e.g. outpatient detoxification in specialist addiction services was excluded). Although the management of alcohol dependence might start with detoxification, successful long-term recovery is dependent on psychosocial interventions that focus on building motivation to change, and support changing of maladaptive behaviours and expectations about alcohol. This review is by no means a comprehensive review of the management of alcohol dependence but narrowly focuses on just one aspect of that, namely community detoxification.

Methods

The systematic review was guided by an a priori defined protocol consistent with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses)

statement [14]. The following electronic databases were searched: Cochrane library, Medline, EMBASE, PsycINFO, Global Health and CINAHL. AN1 conducted the search using the appropriate search terms under the following concepts: AUD (e.g. Alcohol dependence, Alcohol withdrawal), Detoxification (e.g. Detoxification, Detox) and Setting (e.g. Community, Home). The search strategy for Medline is presented in Appendix 1.

AN2 and UB independently assessed the titles and abstracts of the studies identified through the search of the electronic databases. If the title and abstract did not offer enough information to determine inclusion, the full paper was retrieved to ascertain whether it was eligible for inclusion. AN2 and UB then discussed their independent selections and arrived at a final list of eligible papers. In case of any disagreement regarding inclusion, a third reviewer (RV) was consulted for a final decision. AN2 inspected the reference lists of eligible papers and relevant reviews to include additional eligible papers that were not retrieved by the search of the electronic databases. Finally, AN2 conducted a forward search on Web of Science using the eligible papers to identify studies which might have been missed in the original electronic database search and to identify eligible studies which cited any of the included papers.

Eligibility criteria: There were no restrictions on year of publication, gender, and age of the participants. Only English language publications were included. Randomized Control Trials (RCTs), published audits, observational studies, case series and qualitative studies were included while systematic reviews with or without meta-analyses and case reports were excluded. Studies with participants having alcohol dependence and/or alcohol withdrawal with or without comorbid physical/mental/substance use disorders were included. For inclusion in the review alcohol dependence had to be diagnosed in one of the following ways: clinical

diagnosis, or according to the International Classification of Disease (ICD), Diagnostic and Statistical Manual (DSM), any other standardised criteria or any other structured diagnostic instrument. Studies were included if they tested any evidence-based intervention package designed specifically to treat alcohol withdrawal syndrome. For a study to be included, the intervention had to be delivered at home or in primary care outpatient settings. If the intervention was based in a specialist addictions centre, it was excluded even if it was delivered to outpatients, unless the dispensing and monitoring was done through primary care. **This was done as specialist addictions centres are rare in low resource settings and outpatient monitoring of detoxification in such centres is not feasible because of their poor accessibility for large sections of the population.** If the intervention was based in a specialist addictions centre, but was delivered at home, it was included. There were no limitations to comparison groups and studies were included if the comparison group was a placebo, treatment as usual, or any other active intervention. Studies were included if they reported one or more of the following outcomes: initiation and/or completion of detoxification, abstinence, quantity and frequency of drinking, adverse effects or events related to detoxification, mortality, costs, alcohol related problems, uptake of follow up services and treatment satisfaction measured using standardised scales. Qualitative studies were included if they explored and/or reported themes signifying acceptability and feasibility of home detoxification packages.

Data extraction: Following PRISMA guidelines, a record was made of the number of papers retrieved, the number of papers excluded and the reasons for their exclusion, and the number of papers included. A formal data extraction form was designed for the papers and guidelines to extract data relevant to the study aims. PE and AN3 independently extracted the data and any disagreements about extracted data were discussed and resolved.

A qualitative synthesis of the data was conducted as the heterogeneity of study designs, samples and outcomes measured precluded a meta-analysis.

Results

Twenty studies were eligible for the review and these included four RCTs [15-18], two case series [19, 20], three qualitative studies [21-23], six observational studies [24-29], three quasi-experimental studies [30-32], and two mixed-methods studies [33, 34]. Thirteen studies were conducted in United Kingdom (UK) [15-17, 21, 24-28, 30, 32-34], two each in the United States of America (USA) [19, 29], and Australia [22, 31], and one each in Ireland [23], Brazil [18], and Canada [20]. The monitoring of the detoxification was done either at home [15-17, 20, 21, 23, 24, 27, 30-34] or in outpatient settings [18, 19, 25, 26, 29]. Sample sizes ranged from 4-517, and the wide range was due to the range of study designs included in the review. Eighteen studies included both males and females (one each looked solely at males [19] or females [23]), although most (>70%) had predominantly males. The age of participants ranged from 18 to 77 years (mean age for pooled studies being 40 years).

Measurement of alcohol dependence and alcohol withdrawal

The Severity of Alcohol Dependence Questionnaire (SADQ), was used to diagnose alcohol dependence in seven studies [15-18, 26, 32, 34], and ICD-10 criteria were used to define alcohol dependence in two studies [21, 27]. One study defined 'severe alcoholism' using the Michigan Alcoholism Screening Test (MAST) [19]. Two studies relied upon self-reports of heavy alcohol consumption and treatment seeking to indicate an alcohol use disorder [35, 36].

One study defined alcohol withdrawal syndrome as presentation with hand tremors and one other physical manifestation of withdrawal [19]. Some studies used

standardised tools like the Severity of Withdrawal Symptom Checklist (SWSC) [16, 30], and the Modified Selective Severity Assessment (MSSA) [29], to monitor the severity of withdrawal. These tools were used to determine withdrawal status for entry into the study. The tools used to monitor withdrawal status during the detoxification process are listed later in the 'detoxification procedures' section.

Eligibility/ineligibility criteria for home detoxification

There was overlap in both the eligibility and ineligibility criteria for home detoxification used in the included studies, summarised in Box 1. Common eligibility criteria for home detoxification included the following:

A) Requisite for detoxification in any setting

a) clinical need for alcohol detoxification assessed in one of several ways: presence of alcohol withdrawal syndrome [19], presence of alcohol dependence [18, 20, 25, 26], self-report of heavy drinking [29], and breath analysis [19, 29], b) expressed motivation

Box 1

ELIGIBILITY CRITERIA

- Motivation
- GP consent
- Clinical need
- Ability to reach clinic
- Ability to follow medication instructions
- Relatively healthy
- Availability of carer
- Safe home
- No other substance use in home
- Ability to stop work for 1 week
- Inability to self-detoxify

INELIGIBILITY CRITERIA

- Alcohol withdrawal-related: Severe withdrawal, delirium tremens, and withdrawal seizures.
- Mental health problems: Psychoses, suicidality, severe memory difficulties, hallucinations, depression, abuse of substances other than alcohol
- Physical health problems: Epilepsy, hypertension, unexplained loss of consciousness, jaundice, hematemesis, melena, ascites, severe peripheral neuritis, cerebrovascular disease, coronary heart disease, type 2 diabetes, hypertension
- Severe physical/psychological disorders (unspecified)
- No stable residence
- Repeated failure to complete community detoxification

to stop drinking [17, 20, 24, 26, 27, 29, 30, 32, 34],

B) Specific for home detoxification

a) another person available in the home to care for the patient, and provide support and monitoring [24, 27, 31, 33], b) a safe home environment [20, 21, 24, 31, 32, 34], c) no other substance use within the home [35, 37, 38], and d) consent from the General Practitioner (GP) [24, 30, 32, 34].

Other not so commonly described criteria included the patient's ability to reach the clinic [19, 25], ability to follow medication instructions [19], ability to stop working for one week [24], inability to self-detoxify [25], and the patient being relatively healthy [31].

Ineligibility criteria included a range of medical conditions such as a history of epilepsy [15, 27,

31], unexplained unconsciousness [27, 33], jaundice [27, 33], haematemesis [27, 33],

melaena [27, 33], ascites [27, 33], severe peripheral neuritis [27, 33], cerebro-vascular accident or coronary heart disease [20, 27, 33], type 2 diabetes [20], hypertension [20, 31], and severe physical illness (unspecified) [15, 24, 32, 34]. History of withdrawal-specific complications such as severe withdrawal [19, 20, 26, 31], delirium tremens (current or past) [24, 27, 30], withdrawal fits [15, 24, 27, 32-34], and repeated failure to complete community detoxifications [24] were also contraindications for home detoxification. Other reasons for ineligibility for home detoxification included mental health problems such as psychoses [30], suicidality [30], severe memory difficulties [30], active hallucinations or history of hallucinations [27, 33], depression [27, 33], other substance abuse with alcohol [25], and other severe mental illness (unspecified) [15, 24, 31, 32, 34]. Also, patients with no stable residence [15, 31] were considered to be ineligible for home detoxification.

Detoxification procedures

Medications for detoxification were prescribed either in primary care [15-17, 20, 27, 30, 32, 34] or in community-based addiction services [18, 19, 21, 24-26, 29, 33]. Detoxification symptoms and signs were monitored either at the patient's home [15-17, 20, 21, 24, 27, 30-34] or in outpatient settings e.g. primary care clinics [18, 19, 25, 26, 29]. The detoxification period ranged from 3-12 days, with many studies specifying that the length of detoxification depended on the severity of dependence.

Benzodiazepine was the primary medication for alcohol detoxification. Seven studies utilized a fixed reducing dose regime [15, 16, 25-27, 29, 30], whereas two studies each allowed medication dosing to be determined by the GP [32, 34], or as per symptoms [19, 24]. The primary medications prescribed for detoxification included chlordiazepoxide [16, 17, 27, 29, 30], oxazepam [19], diazepam [25, 26], and chlormethiazole [32, 34]. In two studies, there was a choice given between medications, chlordiazepoxide or diazepam [20] and diazepam or lofexidine [24]. In three studies thiamine was prescribed in addition to a benzodiazepine [20, 25, 36].

All but six studies included daily medication monitoring [17, 19, 24-27, 29-31, 33]; one study had less than daily monitoring [15] and three studies had more than daily monitoring [16, 32, 34]. Withdrawal symptoms were monitored through using standardised scales such as Severity of Withdrawal Symptom Checklist (SWSC) [16, 30], Symptom Severity Checklist (SSC) [24, 32, 34], Modified Selected Severity Assessment (MSSA) [19, 29], Alcohol Withdrawal Scale [20], and Withdrawal Symptom Score [17].

Safety

There were no differences in the proportion/number of detoxification related adverse events during home detoxification compared to in-patient detoxification i.e. visual hallucinations 10% vs 8% [30] and one case of seizures vs one case each of seizures and hallucinations) [32]. One patient with a schizophrenia diagnosis reported suicidality during community detoxification, and had to be admitted to the hospital [19]. However there was no information to indicate whether the reported suicidality was directly related to home detoxification. Five studies reported that no adverse events took place during community detoxification [17, 25-27, 31].

Initiation and completion of detoxification

Detoxification was initiated in 100% of the patients in all but two studies. Among the latter, 38.3% of those prescribed detoxification initiated community detoxification. Reasons for not initiating community detoxification included undertaking day or inpatient detoxification, abstinence at the time of assessment, not attending or cancelling appointment, and not meeting criteria for home detoxification [24]. In the other study, 88% of homeless men living in a hostel who were prescribed detoxification initiated the detoxification. Reasons for not initiating detoxification were because the hostel was filled to capacity, and age of the patient (<18 years) [17].

Detoxification completion rates for community detoxification ranged from 50% to 100%. Three studies had a 100% completion rate for detoxification [18, 20, 35]. In a retrospective audit of services, Wiseman et al. found that 88% of those patients who began detoxification completed it, while 4% dropped out, 3% were discharged, and 5% were moved to inpatient care [36]. Two studies compared completion rates between home detoxification and facility-based detoxification. In one study, detoxification completion rates were 90% for home detoxification and 78% for detoxification in the day hospital [30]. In the other study, 50% of the community (hostel) detoxification group completed detoxification, compared to 36.4% of the inpatient hospital group [17]. Except for one study [36], none of the other studies defined detoxification completion. The former defined detoxification completion as attendance at all program appointments and negative breath analyses for alcohol on all days enrolled.

Effectiveness/Efficacy/Impact

Across studies there was a heterogeneity of outcomes measures, precluding a quantitative synthesis of the effectiveness data.

Experimental studies

In this section we report results from RCTs, matched cohorts, and unmatched cohorts with mostly insignificant (statistically) differences between the two cohorts. Compared to patients undergoing facility based detoxification, those who underwent community detoxification were more likely to be drinking less or abstinent [17, 30, 31]. However, when home detoxification was compared to 'minimal intervention' (assessment only) there were no significant difference in abstinence rates at 6-month follow-up between the two groups, although the home detoxification group remained abstinent for a significantly longer time than the minimal intervention group ($p < 0.001$) [16]. Similarly another study did not find any significant difference in abstinence rates when an

outpatient detoxification intervention was compared to an outpatient detoxification intervention supplemented by home visits [18].

Observational studies

In a treatment cohort receiving community detoxification, 20.6% of community detoxification completers were drinking at follow up (measured using a daily breath analysis) but, compared to non completers, the former drank on a fewer number of follow up days (10% vs 35%) [19]. In a case series (n=4) of a community detoxification, at three months, two patients were completely sober, one patient had marked improvements in cognitive and functional status despite failure to maintain abstinence, and the remaining patient was actively drinking and had cognitive impairments [20]. Finally, in a treatment cohort of 30 patients undergoing home detoxification, compared to baseline there was a significant reduction in quantity and frequency of drinking and Alcohol Problems Inventory scores at follow up [38].

Cost

In Australia, detoxification in a general hospital costs 10.6 to 22.7 times that of home detoxification [35]. In the UK, inpatient detoxification for homeless people was roughly four times the cost of that in a community hostel [17]. Another study conducted in the UK reported that inpatient detoxification costs were six times greater than those of outpatient detoxification [26]. A retrospective audit conducted in the UK reported a 50% reduction in patient admission to the hospital for alcohol detoxification within the first year of the community detoxification program, giving an estimated savings of 74 inpatient weeks [25]. A similar study completed in the US projected \$600,000 savings within the first year of the outpatient program [36].

Uptake of continuing care

Two studies reported high levels of continuation of services among participants who completed community detoxification, ranging from 52% to 74% [30, 36]. However, in one study the uptake of continuing care by the home detoxification care was not much different from the day hospital group (52% vs 53%). Two other studies reported that there was no difference between the amount and type of continued services utilized by home detoxification patients and the respective comparison groups in those studies [16, 35].

Acceptability

Timely support following initial help-seeking was seen to be an important element in the initiation and completion of detoxification. Long waiting periods to initiate detoxification led to patients feeling “desperate” and “anxious” ; and their family members struggled to maintain motivation in the patient during this time [21]. On the other hand patients were significantly more likely to attend their assessment appointment if the waiting period was less than 24 hours [17].

Studies reported that the majority of patients preferred detoxification in the home [22, 38], and some reasons for that were the ability to continue working and scheduling of home visits around work shift times [21], and the perception that more attention was given to outpatients than inpatients during counselling sessions [25]. Patients and carers rated support from the community alcohol team nurses most highly, even above medication; and caregivers also highly valued telephone support, breathalyzer checks and medications [38]. Positive feedback was received from users of community detoxification programs that involved a collaboration between the community, hospital, and primary care teams [30, 33, 21]. However some shortcomings of such programmes included gaps in communication between voluntary staff and the detoxification team, lack of information about the service, absence of one single

coordination center [21], and the prohibitive cost of aftercare impacting sustainability of abstinence following detoxification [23].

In general, GPs supported the concept of home detoxification and their own involvement, but concerns were raised about time constraints, ability of patients to self-medicate during home detoxification, availability of support and resources [22, 28]. GPs listed unsupportive family or friends, unreliable or unmotivated patients, social isolation, severe mental or physical illness, history of repeated failures, severe alcohol dependence, inadequate housing, and young children at home as contraindications for home detoxification [28].

Feasibility

~~Community detoxification run by no formally trained staff except a general practitioner was not only feasible but also superior to inpatient treatment for treatment-seeking homeless persons [15].~~ Despite such findings, GPs question the safety and effectiveness of home detoxification for those with severe alcohol withdrawal and were hesitant to take responsibility for such patients [22]. However, severely dependent patients undergoing home detoxification reported high levels of satisfaction [30], with community detoxification being seen to be feasible even for patients with chronic alcohol problems having limited social and environmental support [19]. On the other hand home detoxification is deemed to be unsafe in those unable to procure stable, short-term living arrangements and in those without sufficient control of psychotic symptomology [19]. GPs from Australia expressed concerns about their own ability to prescribe and oversee home detoxification, suggesting the use of standardised protocols, assessment schedules and prescription regimes for different levels of dependence. They also reported the following structural barriers: lack of appropriate remuneration (considering the time consuming nature of home detoxification), lack of specialized training, and fear for personal safety in making home visits [22].

Discussion

Despite some variability in eligibility criteria and detoxification procedures in the included studies, the current review demonstrates that community detoxification has good rates of initiation and completion, is safe, leads to improved drinking outcomes, is cheaper than inpatient detoxification, and is generally feasible to deliver and acceptable to a range of stakeholders. However the variability in eligibility and detoxification and the nature of the study designs precludes the synthesis of the available evidence into clear evidence based clinical recommendations. In fact, in our opinion, the biggest outcome of this review is to highlight the large gap in the evidence base and the need to generate high quality evidence, because the preliminary evidence does demonstrate the potential utility of home detoxification in reducing the treatment gap for alcohol dependence, which exists even in high income countries [39]. **Some lessons to be learnt from the limited evidence we have is that a safe and effective community detoxification programme should be characterised by clearly defined eligibility criteria, non ambiguous medication protocols based on objective measurement of withdrawal symptoms, at least daily structured monitoring of the patient's progress, and linkage with continuing psychosocial care after completion of detoxification.**

Despite the preliminary evidence about the utility of home detoxification as summarised above, it is not a commonly followed approach in low resource settings where facility based detoxification possesses several practical barriers to access. In such low resource settings, one of the solutions to the treatment gap for a range of mental, neurological and substance use (MNS) disorders has been using relatively easily accessible platforms of care (e.g. primary care) to deliver evidence based interventions by non-specialist health workers [40]. The preliminary evidence for community detoxification lends itself well for making a case for delivering this

intervention through primary care platforms and needs further exploration using robust study designs.

It is notable that for a treatment delivery approach that possesses many potential advantages, including preliminary evidence of effectiveness/impact, acceptability, accessibility and feasibility and one that is increasingly being used in high income countries (as evidenced by the numerous community detoxification guidelines available e.g.

[http://www.nht.nhs.uk/mediaFiles/downloads/105373918/MMG021%20Guidance%20for%20Community%20Alcohol%20Detoxification%20\(Aug14-May16\).pdf](http://www.nht.nhs.uk/mediaFiles/downloads/105373918/MMG021%20Guidance%20for%20Community%20Alcohol%20Detoxification%20(Aug14-May16).pdf)), there are hardly any RCTs to examine the cost effectiveness of home detoxification compared to inpatient detoxification. Furthermore, almost all of the evidence that is available on the various aspects of home detoxification has been generated before the year 2000. So, there is limited cost effectiveness evidence and there is limited recent evidence about home detoxification. In the absence of such evidence it does appear that community detoxification guidelines are informed by extrapolation of evidence from inpatient detoxification, even though the former might have its own specific contextual requirements different from the latter. Furthermore, even in this existing limited literature about home detoxification, only one study is based in a low and middle income country (LMIC) [18]. LMICs have distinct contextual characteristics compared to high income countries e.g. shortage of specialist human resources. The lack of cost effectiveness evidence from such settings is a major gap in evidence as such evidence from low resource settings could potentially be used to inform community based services for alcohol dependence in LMICs thus helping to overcome the barriers to access posed by facility based care in such settings.

There are some methodological limitations of this systematic review. The review was focused only on published literature and grey literature was not explored. Also, the

literature search was restricted to papers written in English, and most of the identified studies were based in high-income countries, thus impacting the generalizability of findings to non-Western settings. However, it is inconceivable that all of the addictions research literature from LMICs on this particular topic would be published in non-English language journals when in fact a lot of other addictions literature from such countries is published in English language journals. This systematic review has its strengths, the primary one being the systematic approach of literature searching and the strict adherence to a study protocol. Furthermore, the approach that was followed in extracting data on a range of domains (e.g. effectiveness, feasibility, safety etc) resulted in making this review a comprehensive synthesis of the research literature on this topic. There have been no such reviews of home detoxification in the past. The reviews published on this topic have been limited by the non systematic nature of the search strategy [12], or a focus on discrete steps of the home detoxification procedure e.g. eligibility criteria [41]. Besides the limitations of the review process the studies included in the review themselves have limitations which need to be taken into account when interpreting the data. One such limitation is the outcome of 'abstinence' measured in some of the studies. Detoxification is not a treatment for AD and one should not expect significant long term abstinence rates with detoxification alone in the absence of follow up psychosocial support. In some of the studies the comparison was not between randomly allocated groups (RCTs) or matched cohorts, hence comparison of costs between inpatient and community detoxification would be biased as the former group would have more severely unwell patients requiring longer admissions and more resources.

There are several implications of the findings from our review, the foremost being the need for more RCTs testing the cost effectiveness of community detoxification in comparison with inpatient detoxification, especially in low and middle income countries. As patients would generally prefer inpatient detoxification and might not wish

to be randomised, conducting patient preference trials might be a viable option. In such trials patients can choose to be randomised and those that don't want to be randomised can choose to receive the intervention or control. The current evidence base supports the case for community based approach to detoxification but is not sufficient to inform evidence based guidelines or policies for such an approach. Furthermore, primary care services should provide an option of community based detoxification for eligible patients, thereby increasing the penetration and coverage of services for patients with AD. While doing that, it is important to remember that patients with mild dependence might not need detoxification and to be able to make that decision it is important to build the capacity of primary care personnel to identify different severities of AUD. Finally, policymakers, especially those in low resource settings should focus efforts on de-centralising services for detoxification from specialist services to a stepped care model where detoxification is managed in primary care in the first instance with referral of complex cases to specialist services.

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